OIL IMPORT TARIFFS:
ALTERNATIVE SCENARIOS AND THEIR EFFECTS

Staff Working Paper

The Congress of the United States
Congressional Budget Office

April 1982

J932-17

SUMMARY

One option to reduce the current and future budget deficits is to impose a tariff on all imported oil. Whether or not this is good public policy depends on the potential deficit reduction, the macroeconomic costs that it imposes on the economy, and the extent to which it represents good energy policy. With respect to deficit reduction, a $5 per barrel tariff would reduce the federal deficit by $9.8 billion in fiscal year 1983 and by $10.5 billion in fiscal year 1985. The costs to the economy of such a tariff would be a 0.5 percent increase in the inflation rate (GNP deflator), a similar percentage decrease in real GNP, and a 0.1 percentage point increase in the unemployment rate.

The imposition of an oil import tariff would constitute both budgetary and energy policy. Much of the rationale supporting an oil import tariff is based on the risks imposed by U.S. dependence on imported oil. Specifically, high levels of oil imports leave the United States vulnerable to potential disruptions in foreign oil supplies and their effects on the economy and conduct of foreign policy. By reducing oil imports, we reduce these risks. 1/ In the final analysis, whether or not an oil import fee is good energy policy depends on one's assessment of the probability of future oil import disruptions. If this risk is high, an oil import fee may be appropriate. If it is low, the existence of the Strategic Petroleum Reserve may be regarded as adequate protection. In the current world oil market, the presence of significant excess capacity reduces this risk somewhat, although this situation may change should oil demand pick up with the next economic upswing. Moreover, other options might reduce oil imports at equal or less macroeconomic cost, among them natural gas pricing changes and reform of electric utility regulation.

Budgetary Effects

In fiscal year 1983, under a $5 per barrel tariff, tariff revenues would total $9.6 billion; higher windfall profits taxes, $3.8 billion; and higher corporate income taxes from domestic oil producers, $3.9 billion, for gross new revenues of $17.3 billion. Corporate and personal income taxes paid elsewhere in the economy, however, would fall by $4.1 billion, and federal

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1/ Congressional Budget Office, The World Oil Market in the 1980s: Implications for the United States (May 1980).

expenditures would rise by $3.4 billion. When these offsets are subtracted from the gross collections, they produce a net federal budgetary effect of $9.8 billion, which could be used to reduce the deficit by that amount. Table 1 of this report presents these calculations for fiscal years 1983 through 1987.

Macroeconomic Effects

The imposition of a $5 import tariff would result in a loss of 0.5 percent in constant dollar GNP in the first year following its adoption. This would lead to additional unemployment of about 100,000 persons, or an increase of 0.1 percentage points in the unemployment rate. After one year, such a tariff would result in an increase in the price level of 0.4 percent, declining to 0.3 percent after two years. Many analysts believe that, under the current monetary policy, any actions to reduce the deficit would entail only small losses in output since lower deficits suggest lower interest rates. Similarly, any increase in excise or personal taxes will have some negative impact on GNP. An oil import tariff, however, might be less successful in lowering interest rates than other possible measures to reduce the federal deficit by a like amount. The smaller effect of a tariff on interest rates occurs because tariffs (or any sales or excise tax imposed on any commodity) would not only raise the price of the commodity but also the demand for money with which to buy the taxed good. Thus, an oil import tariff would result in a higher level of demand for money than, for example, an income tax increase of like amount. This increased demand for money would put additional upward pressure on interest rates.

It should be noted that the losses in employment and output resulting from the imposition of an import tariff would be reduced if these revenues were recycled quickly through reductions in other taxes.

Energy Policy

The imposition of a $5 per barrel import tariff would reduce U.S. oil consumption by 200,000 barrels per day in 1983 through substitution of other fuels and outright conservation. In 1983, the change in the world price and reduced imports would immediately improve the U.S. trade balance by about $5.5 billion. In the long term, an oil import tariff is a neutral subsidy for alternate fuels and technologies. By raising the price of the oil with which these technologies compete, an import fee encourages a wide range of innovation in the provision of energy sources. The extent of these effects would depend strongly on whether consumers and producers viewed the tariff as permanent or as temporary.

OIL IMPORT TARIFFS: ALTERNATIVE SCENARIOS AND THEIR EFFECTS

An oil import tariff has been suggested as one tax option to help reduce the large federal deficits that are projected for the coming fiscal years. The Trade Expansion Act of 1962 gives the President the authority to adjust the level of imports for any product affecting national security. Such an adjustment can be made through the imposition of either an import fee or quota. Since the President has not yet used this option to raise revenues, the Congress may wish to impose an oil import tariff legislatively.

While any specific legislative initiative would undoubtedly contain features not analyzed in this paper, it provides a general discussion of the topic. Specifically, this report analyzes the budgetary and macroeconomic effects of tariffs set at various levels. It first discusses the major assumptions underlying the analysis, especially the extent to which the price increase resulting from the fee would fall on U.S. consumers. The report then analyzes the major effects of the tariff on the federal deficit, presenting both revenue and expenditure increases. It next presents the results of macroeconomic simulations of oil tariffs, followed by its implications for energy policy. The discussion then turns to the form of the tax and the international and distributional aspects of the issue. Finally, the recycling of tax revenues is discussed.

Possible imposition of a tariff raises the question of which is better for the economy: a lower federal deficit or lower oil prices. Unless foreign oil producers bear 100 percent of the burden, a tariff would increase U.S. energy costs, both directly through increased oil prices and indirectly through increased prices of oil substitutes. (For example, since the Natural Gas Policy Act accounts for inflation in determining natural gas prices, these too would rise slightly under an oil tariff.) Currently, oil prices are falling, thus raising consumers' real incomes. The issue facing the Congress is whether it is better for the economy to maintain lower energy prices, and thus higher real consumer incomes, or to raise revenues thereby lowering federal deficits and encouraging oil conservation.

With the imposition of a tariff, imported crude oil prices would initially rise. In turn, domestic crude oil prices would rise and the quantity of oil demanded would decrease. Foreign oil producers would then face a choice of lowering their output to maintain prices or lowering their price or both. This decision would determine how the burden of the tariff was divided. If foreign exporters lowered their output, they would support the higher price of oil and push the price burden of the tariff onto consumers.

But if foreign producers did not change their output, they would be forced to accept a lower price, because of the demand reduction created by the tariff. Thus, foreign producers would determine who ultimately bore the price change resulting from the tariff by deciding whether to cut their prices in the face of reduced demand. Even if world oil prices fell below what they would have been in the absence of a tariff, U.S. oil prices would still be higher. This would occur because a tariff would create a differential between world prices and U.S. prices. Thus, unless foreign oil producers absorbed the entire fee through price cuts, U.S. oil prices would be higher than they would have been in the absence of the fee.

METHODOLOGY AND ASSUMPTIONS

The budgetary and economic effects of a tariff would be significantly affected by the manner in which the burden of price changes was divided between foreign oil producers and U.S. oil consumers. In essence, the more that foreign oil producers absorbed the cost of a tariff, the smaller would be the negative economic effects. To the extent that the price burden is shared, net revenue increases would also be smaller, since smaller price increases would reduce windfall profits and corporate income taxes accruing through higher oil prices. Conversely, as U.S. consumers absorbed more of the tariff through product price increases, more revenue would be collected, but the economic consequences of the tariff would be larger. Therefore, this report presents the budgetary and economic consequences of a tariff for two opposite assumptions: first, that foreign oil producers in effect pay one-third of the tariff through price reductions; and, second, that U.S. consumers bear the entire price burden of the tariff. Throughout the report, the first is referred to as a tariff with distributed incidence, while the second is referred to as a tariff with undistributed incidence. (The division of a tariff's price burden is often referred to as its incidence.) The discussion that follows presents the rationale for the different assumptions.

The two incidence assumptions--foreign oil producers absorb one-third of the price change or U.S. consumers absorb the entire price change--are the two polar cases. In the first case, CBO assumes that foreign oil producers refuse to lower their level of output. Given the U.S. share of the world oil market, foreign oil producers would have to lower their prices by one-third of the fee to keep levels of demand constant worldwide. In the second case, CBO assumes that foreign oil producers refuse to lower their price. To accomplish this, they would have to absorb the entire demand reduction resulting from the tariff through lower output.

In a conventional competitive market, the burden of tariff would be shared by producers and consumers. As is well known, however, the

international oil market has major noncompetitive elements. OPEC producers would usually be in a position to determine the incidence of the tariff. A combination of economic interest and domestic political pressures could very well cause leading oil-producing nations to attempt to shift the entire burden of the price change to consumers through output restrictions. In previous years, the position and coherence of oil producers gave them the ability to cut production as needed. At the present time, however, there is excess supply in the world oil market. If these conditions continue, producers might be unable to absorb more production cuts. Since their response is uncertain at the moment, both alternatives are presented in this report.

CBO assumes that imported crude oil and refined products begin at the current annual level of 5.0 million barrels per day and, in the absence of the tariff, rise to 6.2 million by 1987. The crude oil import tariff is assumed to take effect on July 1, 1982, with equivalent taxes imposed on imported refined products. CBO further assumes that world oil prices decline a total of 10 percent in the first two quarters of 1982 but in the absence of the fee, return to present levels by the end of 1983, and continue to rise thereafter.

EFFECTS ON THE FEDERAL DEFICIT

Depending on incidence assumptions, a $5 per barrel oil import tariff would reduce the federal deficit by between $9.8 and $13.9 billion dollars in fiscal year 1983. The budget impact varies with the incidence of the tariff. If foreign oil producers absorb part of the price burden of the tariff, the net budget impact will be at the lower end of the range, whereas, if U.S. consumers bear the entire price burden, the net budget impact will be at the upper end of the range. Net 1983 revenues would rise by $13.2 to $18.0 billion, while net automatic federal outlays would rise by $3.4 to $4.1 billion (see Table 1). As discussed below, these outlay estimates include only those that would automatically be triggered by increases in inflation and unemployment and do not include any change in discretionary spending that the Congress might choose to undertake.

As noted in Table 1, the net budgetary effects of an oil import tariff are often greater in the out years. This is true because of the subsidence of inflation and resumption of growth following the initial dislocation caused by the tariff. Yet the inflation brought on by an oil import tariff also increases federal revenues through indexed wages and salaries and "bracket creep." Thus, as inflation subsides, this source of revenue declines, and offsets increase.

TABLE 1. BUDGETARY EFFECTS OF $5 TARIFF UNDER ALTERNATIVE ASSUMPTIONS OF PRICE BURDEN DISTRIBUTION (By fiscal year, in billions of current dollars)

Assumption	1983	1984	1985	1986	1987
Foreign Producers Absorb One-Third of Tariff					
Revenues					
Gross tariff	9.6	10.3	10.5	10.8	11.1
Gross windfall profits tax	3.8	5.4	5.9	5.9	5.6
Gross corporate income tax	3.9	3.9	3.8	3.8	3.8
Total offsets	-4.1	-4.3	-4.1	-5.6	-6.6
Net revenue increase	13.2	15.3	16.1	14.9	13.9
Outlays					
Gross outlays	3.6	6.1	5.8	1.9	1.7
Offsetting receipts	-0.2	-0.2	-0.2	-0.2	-0.2
Net outlay increase	3.4	5.9	5.6	1.7	1.5
Net budgetary effect	9.8	9.4	10.5	13.2	12.4
Tariff Is Paid Entirely by U.S. Consumers					
Revenues					
Gross tariff	9.6	10.0	10.4	10.6	10.8
Gross windfall profits tax	5.7	8.1	8.8	8.8	8.5
Gross corporate income tax	5.8	5.8	5.7	5.7	5.7
Total offsets	-3.1	-4.2	-6.2	-6.9	-9.3
Net revenue increase	18.0	19.7	18.7	18.2	15.7
Outlays					
Gross outlays	4.4	7.8	7.8	3.3	2.9
Offsetting receipts	-0.3	-0.3	-0.3	-0.3	-0.3
Net outlay increase	4.1	7.5	7.5	3.0	2.6
Net budgetary effect	13.9	12.2	11.2	15.2	13.1

NOTES: See text for assumptions. Tariff effective July 1, 1982. Numbers may not add to totals because of rounding.

Federal Revenues

A $5 per barrel import tariff would net the federal government between $13.2 and $18.0 billion in fiscal year 1983. As with the net budget impact, revenue estimates vary with the distribution of the tariff's price burden. As U.S. consumers bear more of it, revenue estimates will rise to the upper end of the range. (Since the tariff would be effective only for one quarter of fiscal year 1982 and there would be lags in collection, the funds collected in 1982 would be small.) These figures are the sum of direct tariff collections plus increased windfall profits tax and oil company income tax collections resulting from higher oil prices, minus the direct offsetting reduction in taxes paid elsewhere in the economy in response to the effects of higher energy prices. Table 1 presents annual net revenue estimates for fiscal years 1983-1987. (For the net revenue effects of $2 and $10 tariffs, see Table 2.)

If a tariff was imposed, the final net effect on federal revenues might differ from the initial increase. The tariff would transfer large amounts of money from oil consumers to oil producers and the government. Real macroeconomic activity and, hence, income and profits outside the energy industries would be reduced. Household expenditures would be diverted to pay larger amounts for imported and domestic oil and other energy sources, and other industries would pay less tax since they would receive less income and profits. On the other hand, the increase in the price level might result in higher nominal wages which would in turn increase income tax liabilities. While in the past the cost of living allowance induced tax revenue increases were significant, during the current recession some of those cost of living increases are being eliminated. Thus, in the future, income tax revenues may not rise as rapidly with inflation as they have in the recent past.

Federal Outlays

An import tariff might also increase federal outlays in two ways. Because they are indexed to cost-of-living increases, Social Security payments and entitlement program expenditures, such as food stamps, supplemental security income, federal retirement, and aid to families with dependent children, would rise with inflation. If the increase in inflation triggered an increase in wages, then subsequent unemployment claimants would also be entitled to larger benefits. In addition, an oil import tariff would increase unemployment, which would further increase unemployment compensation expenditures.

In addition to the automatically adjusted outlays, discretionary outlays might also be increased by a tariff. For example, in fiscal year 1981, the

TABLE 2. NET FEDERAL REVENUES UNDER ALTERNATIVE ASSUMPTIONS OF PRICE BURDEN DISTRIBUTION (By fiscal year, in billions of current dollars)

Assumption	1983	1984	1985	1986	1987
Foreign Producers Absorb One-Third of Tariff					
$2 import tariff					
Gross tariff	4.1	4.2	4.4	4.4	4.5
Gross windfall profits tax	1.6	2.2	2.4	2.4	2.2
Gross corporate income tax	1.5	1.5	1.5	1.5	1.5
Total offsets	-1.1	-1.3	-1.8	-2.3	-2.8
Net total	6.1	6.6	6.5	6.0	5.5
$10 import tariff					
Gross tariff	18.5	19.6	20.0	20.7	21.1
Gross windfall profits tax	7.4	11.0	11.9	11.0	11.0
Gross corporate income tax	7.7	7.7	7.6	7.6	7.6
Total offsets	-5.4	-6.7	-9.2	11.5	-14.8
Net total	28.2	31.6	30.3	27.8	24.9
Tariff Is Paid Entirely by U.S. Consumers					
$2 import tariff					
Gross tariff	4.0	4.3	4.2	4.4	4.5
Gross windfall profits tax	2.2	3.2	3.6	3.6	3.4
Gross corporate income tax	2.3	2.3	2.3	2.3	2.3
Total offsets	-0.9	-1.4	-2.0	-2.6	-3.6
Net total	7.6	8.4	8.1	7.7	6.6
$10 import tariff					
Gross tariff	17.4	18.5	19.2	19.9	20.3
Gross windfall profits tax	11.2	16.1	17.8	17.8	17.0
Gross corporate income tax	11.6	11.6	11.4	11.4	11.4
Total offsets	-5.1	-8.1	-11.2	-14.2	-18.7
Net total	35.1	38.1	37.2	34.9	30.0

NOTES: See text for assumptions. Tariff effective July 1, 1982. Numbers may not add to totals because of rounding.

Department of Defense (DoD) procured 400,000 barrels of oil products per day in the United States alone. Thus, increased oil prices would directly affect DoD expenditures. Since energy is an input in virtually all goods and services, the cost of providing most government services would become more expensive. The Congress would then have to decide whether to provide fewer services or spend more to provide a constant level of service.

If oil producers absorbed one-third of the tariff and its inflationary costs, a $5 tariff would increase Social Security payments and entitlement program expenditures by $2.8 billion in 1983. If U.S. oil prices rose by the full amount of the tariff, a $5 per barrel tariff would increase entitlement and Social Security expenditures in fiscal year 1983 by $3.4 billion. Tariffs of $10 and $2 per barrel would increase such expenditures by between $3.2 to $4.0 billion and between $0.6 to $0.8 billion, respectively. The level of other spending would depend on Congressional decisions.

As mentioned above, the rise in unemployment would trigger yet other expenditures, such as those for unemployment compensation and food stamps. If unemployment rose by the amounts outlined below, a $5 tariff would result in a $0.8 billion to $1.0 billion increase in unemployment-related expenditures in 1983. The extra unemployment-related expenditures triggered by a $10 tariff would range between $1.2 and $1.4 billion, while such expenditures resulting from a $2 tariff would probably not exceed $300 million. As with the revenue estimates, these figures would be at the upper end of the range if U.S. consumers bore the entire brunt of the tariff, but would decrease as oil producers bore more of the tariff through price reductions.

An import tariff would increase offsetting receipts from the Naval Petroleum Reserve, outer continental shelf (OCS) leases, and federal onshore leases. In 1983, a $5 fee would generate about $200 million per year in these receipts if the incidence was distributed, and about $300 million if the price rise was entirely borne by U.S. consumers. Receipts from $2 and $10 tariffs would be proportional.

Like the revenue estimates, these expenditure estimates do not exhaust all the possible effects of an oil import tariff on the federal budget. This report attempts to identify only the dominating influences on revenues and expenditures. It should be representative, however, of the full net budgetary effects of the tariff.

MACROECONOMIC EFFECTS

The macroeconomic effects of the tariff would depend on the tariff's level and its interaction with the distribution of the price burden between

consumers and producers. As the absolute amount of tariff borne by U.S. consumers increased, the macroeconomic feedback would become more important. If the tariff raised U.S. oil prices significantly, U.S. consumers would experience a decline in purchasing power and would be forced to reduce their overall expenditures. Since the demand for oil is inelastic in the short run, consumers might reduce purchases in other areas, most notably in consumer durables. Facing decreased demand, these affected industries, in turn, would reduce their labor force and decrease the quantity of inputs they purchased. The higher oil prices induced by a tariff would transfer income from consumers to producers (or through the windfall profits and other taxes to the government), who might not respend this money quickly enough to avoid a decline in aggregate demand. Oil price increases might also tend to restimulate the inflationary spiral, as people attempt, with varying success, to shift the loss of real income to others.

The results presented below were calculated using a series of assumptions about the way changes in tariffs and oil prices affect the economy. The main assumption--that the international price of oil will fall by about one-third of the amount of the tariff--has already been discussed. Assumptions about the way the consequent changes in real incomes of oil consumers and producers in the United States are respent are also crucial to the analysis. CBO's assumptions about the impact of real income changes on consumer spending were derived from simulations of several macroeconomic models. 1/ The price effects were derived partly from the same set of simulations and by assuming full passthrough to final consumers of all increases in oil costs. Different assumptions, particularly about changes in consumer spending, would lead to different estimates of the change in constant dollar GNP resulting from an oil import tariff. Thus, the results presented below should be regarded as illustrative, rather than definitive forecasts of the economic effects of oil import tariffs.

All of the simulations presented here suggest that an oil tariff would entail a short-run loss of real output and employment. These results only address the short-run macroeconomic effects of oil tariffs. In the long run, oil tariffs (like other fiscal actions) are expected to affect real output in only a minor way. Thus, in the long run, the discussion of whether or not to impose a tariff will rest on other considerations, particularly the effects on

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1/ For an account of the method used, see Congressional Budget Office, The CBO Multipliers Project: A Methodology for Analyzing Alternative Economic Policies (August 1977).

oil conservation and domestic oil production (and, consequently, U.S. vulnerability to future oil disruptions) and the balance of trade.

The multipliers methodology assumes that the Federal Reserve would follow a moderately nonaccommodating monetary policy. 2/ Many analysts believe that under current monetary conditions, however, actions that reduce the deficit would entail only small losses in output. The reduced federal deficit might help to decrease interest rates by lowering expectations of future inflation and by reducing demand for money and credit. The reduction of interest rates should then stimulate private demand. Oil import tariffs are not like many other actions to reduce the deficit, however, because they also increase prices. The higher initial oil prices caused by an oil import tariff might increase the total volume of transactions the economy would seek to finance. This increases the economy's total demand for money, and therefore, interest rates. Hence, relative to other means of reducing the deficit, a tariff might not be as successful at lowering real interest rates. In this sense, the oil import tariff is not unique. Gasoline and other excise taxes would also increase the volume of transactions.

As stated above, imposition of a tariff would raise U.S. oil prices above the level they would have been without the tariff, unless oil producers absorbed the entire tariff. This statement does not necessarily imply that the resulting oil prices would be above their current level. If it is assumed that oil prices are going to fall drastically, independent of the tariff (an assumption this report does not make), then oil prices after the tariff could be lower than they are today. But they cannot not be lower than they would have been in the absence of the tariff, and consequently, many of the economic benefits of lower oil prices would have been lost. This point should be kept in mind when examining the economic results presented below. These are not changes to present numbers, but additions or subtractions relative to a situation in which everything else remains constant, but a tariff is imposed.

Inflation

The inflationary impact of a tariff would depend largely on the distribution of its incidence between international oil producers and U.S. consumers. Any inflationary effects would be larger in the near term, but would dissipate as time passed. After four quarters, a $5 per barrel tariff would have raised the price level by 0.5 if one-third of it is borne by

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2/ This assumption of constant nonborrowed reserves targets was employed.

producers and by 0.6 percent if borne entirely by U.S. consumers. After two years, however, the price level would only be 0.3 to 0.4 percent above the baseline of no tariff. The four-quarter price effects of the $10 and $2 tariffs would be between 0.9 and 1.2 percent and between 0.2 and 0.3 percent, respectively. By the eighth quarter, these effects would also begin to diminish (see Table 3). Since the Consumer Price Index (CPI) reflects the price of oil more intensively than does the economy as a whole, the inflationary effects of a tariff would be more pronounced in the CPI than in the more general GNP deflator. After four quarters, the $5 tariff would raise the CPI by between 0.8 and 1.0 percent, depending on the incidence. Under current economic conditions, the second round of inflationary effects would probably not be large. Should economic activity expand by more than is expected, however, the subsequent wage-price effects of the tariff might increase inflation by more than is projected here.

TABLE 3. ILLUSTRATIVE MACROECONOMIC EFFECTS OF ALTERNATIVE OIL IMPORT TARIFFS

Tariff Size (In dollars per barrel)	GNP Loss (Percent of projected GNP) a/	Increase in Unemployment Rate (In percentage points) b/	Four-Quarter Increase in the Price Level (In percents) c/	Eight-Quarter Increase in the Price Level (In percents) c/
$2	0.2-0.3	less than 0.1	0.2-0.3	0.1-0.2
$5	0.5-0.7	0.1-0.2	0.5-0.6	0.3-0.4
$10	1.0-1.4	0.3-0.4	0.9-1.2	0.6-0.9

NOTE: Assumes tariff effective July 1, 1982.

a/ Constant dollar GNP loss after four quarters relative to the baseline of no tariff.

b/ Percentage point change in the unemployment rate after four quarters relative to the baseline of no tariff.

c/ Percent change in GNP deflator relative to the baseline of no tariff.

Output and Employment

When simulated, tariffs resulted in a loss in constant dollar GNP relative to the baseline of no tariff. After four quarters, a $5 per barrel tariff reduced constant dollar GNP between 0.5 and 0.7 percent. The loss varied largely in response to the incidence of the tariff. If the burden of the tariff fell entirely on U.S. consumers, the loss would be at the upper end of this range. If foreign oil producers absorbed one-third of the burden through lower oil prices, the loss would be at the lower end. The consequent rise in the unemployment rate would also vary according to the incidence of the tariff. Four quarters after the imposition of the $5 tariff, the rise in the unemployment rate would be between 0.1 and 0.2 percentage points. The additional unemployed would number between 100,000 and 200,000 persons.

A $10 tariff would similarly lower constant dollar GNP by between 1.0 and 1.4 percent. As with the $5 fee, the incidence would be a major factor determining at which end of the range the loss actually fell. Four quarters after the imposition of a $10 tariff, the simulation indicated that the unemployment rate would have increased between 0.3 and 0.4 percentage points. The additional unemployed would number between 300,000 and 400,000 persons.

The economic effects of a $2 tariff would be much smaller. The constant dollar GNP loss would range between 0.2 and 0.3 percent, with a consequent rise in the unemployment rate of less than 0.1 percentage points (see Table 3).

Petroleum Product Prices

If foreign oil producers absorbed one-third of the fee and U.S. consumers the rest, the $5 tariff should raise all refined product prices by roughly 8 cents per gallon. In similar circumstances, a $2 tariff would raise product prices by roughly 3 cents per gallon and a $10 tariff by about 16 cents. Gasoline, heating oil, and all other products are assumed to all rise by the same amount. The precise level of price change for each product would be determined by the demand in each market and refinery product profit margins. Like the inflationary impact, the product price rise would be increased if foreign producers lowered their output rather than their prices in response to the tariff. For example, if foreign producers did not absorb one-third of the $5 and $2 fee, but rather forced it entirely onto consumers, the product price effects would be 12 and 5 cents, respectively. A $10 tariff under such conditions would raise product prices by 24 cents per gallon.

ENERGY POLICY

Beyond being a deficit reduction measure, an oil import tariff must be considered as an energy policy option. Specifically, an oil import tariff is often held to align the costs of oil imports to society and to the individual oil user. A previous CBO report spelled out the risks to the United States of dependence on imported oil. 3/ These risks are future macroeconomic losses as oil prices rise, the possibility of future disruptions in the supply of foreign oil, deterioration in the balance of payments, and constraints on relations with other nations. These risks pose costs that are borne by all U.S. citizens. To reduce these risks, a number of analysts have suggested the imposition of a long-term oil import tariff, levied to represent the costs of the risks. There are, of course, other ways to reduce oil imports. Some of them, like decontrol of domestic oil prices, have already been implemented. Others, such as utility rate reform to encourage the use of coal by utilities or natural gas deregulation, are available. In terms of energy policy, the issue before the Congress is whether the oil import tariff is the most cost-effective policy for reducing U.S. dependence on foreign oil.

The effects of an oil tariff on U.S. oil demand and supply would depend not only on the incidence of the tariff but also on whether the tariff was viewed as permanent or temporary. Given the levels of price sensitivity discussed above and current consumption levels, a $5 tariff should reduce imports by 200,000 to 300,000 barrels per day in the first year to year and one-half, depending on the incidence. Out-year effects would depend on the expectations of consumers. If the fee was viewed as temporary, consumers may make relatively fewer investments to conserve oil by buying new capital equipment, more fuel-efficient cars, or by using different fuels. The quantity of fuel saved, therefore, would not grow as rapidly as it would have if the tariff was viewed as a permanent policy. (The permanence of the tariff might also affect the incidence of the tariff: foreign oil producers might be more likely to accept part of the tariff if it was a permanent influence on oil demand.)

Like oil conservation, mid-term U.S. oil production would depend on the permanence of an oil tariff. In the short run, a tariff would not be likely to raise U.S. oil production significantly. Since the industry has experienced rapid growth in drilling and exploration in the last two years and is currently slowing down because of lower demand, the domestic production effects of a tariff would not be noticeable in the short run. Although some fields might be pumped more rapidly, there would be no substantial increase in domestic

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3/ Congressional Budget Office, The World Oil Market in the 1980s: Implications for the United States (May 1980).

production. If the fee was temporary, additional exploration and development would probably not occur because, before the rewards could be reaped, the price would drop back down. A similar argument would hold for production of alternative fuels. While a tariff would normally encourage the production of alternative energy technologies by raising the price of the fuel oil with which such technologies must compete, if the tariff were viewed as temporary, such production might not occur.

A separate issue concerns the effects on refineries. The refining industry is a competitive and international one. This competition has kept refining profit margins low and stable. Moreover, U.S. and world refineries are operating at very low rates of capacity because of the current reduction in petroleum product consumption. If a tariff led to further reductions in product demand, many refineries might choose to cut their profit margins rather than reduce sales or shut down. Such a "profit squeeze" in the U.S. refining industry would reduce both the cost of a tariff to consumers and the tax liabilities of the refining industry. Thus, to the extent that refiners reduced their profits in response to a tariff, the inflationary impact would be reduced.

AD VALOREM TAX

An alternative to a unit tax such as a tariff is an ad valorem tax set as a percentage of the world price. Initially, the $2, $5, and $10 tariffs would be about equivalent to ad valorem tariffs of 6 percent, 15 percent, and 30 percent, respectively. If the current oil price stagnation should end, and the price of oil begin to rise again, however, the ad valorem tax would rise with it and provide more revenues. On the other hand, should oil prices fall dramatically, the revenues raised by an ad valorem tax would drop with oil prices.

The choice between unit and ad valorem taxes rests on whether the Congress wants to be certain of its revenues in the near term or whether it prefers a source of revenue that will grow with inflation in the longer term. The histories of gasoline and tobacco taxes suggest that, once such excise taxes are put in place, the likelihood of adjusting them to inflation is small. The ad valorem tax would obviate the need for this adjustment by performing it automatically. This tax has other advantages. Prices tend to rise during economic expansions and remain flat or decline during recessions. Ad valorem tax revenues, therefore, have a built-in cyclical flexibility. Moreover, because foreign oil producers would be able to reduce the size of the tax by cutting their own prices and would face larger demand reductions if they raised their own prices, an ad valorem tax would increase the probability that foreign oil producers would cut their prices in response to the tax.

An ad valorem tax on imported oil would also function as an automatic tariff in the event of another disruption in the supply of foreign oil. Previous work by CBO has shown that disruption tariffs, if the revenues are promptly recycled, could lessen the economic losses that occur during disruptions. 4/ If world prices began to rise because of a disruption, the ad valorem tax would also rise and should dampen the demand response and keep more of the income in the United States. This automatic action, however, would increase the need for a parallel recycling mechanism to avoid delays in distributing revenues and subsequent macroeconomic losses.

Table 4 compares the gross revenue stream of a $10 tariff with a 30 percent ad valorem tax. While the difference would be negligible in the early years, the ad valorem tax would provide substantially more revenue in the out-years. Assuming an initial world price of $34 per barrel in fiscal year 1983, the initial size of the tax would be $10.20 per barrel, growing to over $13.00 per barrel by 1987 as the price of oil is presumed to increase. For convenience, the revenue estimates assume that oil producers would not cut their price. The macroeconomic effects of an ad valorem tax would be similar to those of a fixed-fee tariff of comparable magnitude.

TABLE 4. COMPARISON OF GROSS REVENUE STREAMS FROM UNIT VERSUS AD VALOREM TAXES (By fiscal year, in billions of current dollars)

Tax	1983	1984	1985	1986	1987
$10 Tariff	40.2	46.2	48.4	49.1	48.7
30 Percent Ad Valorem	46.9	50.1	56.4	61.5	65.0

NOTES: See text for assumptions. Tariff effective July 1, 1982.

4/ Congressional Budget Office, Managing Oil Disruptions: Issues and Policy Options (September 1981).

INTERNATIONAL EFFECTS

The negative domestic effects of a tariff on output and employment should be mitigated somewhat by the stimulative effect on the economies of other OECD and developing nations if a tariff succeeded in lowering world oil prices. Even if they do not join the United States in imposing a multilateral tariff, other nations might benefit from unilateral U.S. actions. Such a tariff would reduce U.S. consumption and make oil more plentiful in other nations. Most important, if a tariff lowered world prices, it would increase the real incomes of other oil-importing nations. This income rise could, in turn, stimulate their demand for U.S. exports, which could increase employment and output in the United States. These international repercussions could partly offset the initial loss of constant dollar GNP in the United States. In addition, absorption of the tariff by foreign oil producers through reduced prices would improve the U.S. balance of trade with those countries. Foreign oil producers' claim on U.S. output would be reduced and fewer dollars would flow out to pay for imported oil. In 1983 alone, absorption of one-third of the $5 tariff's price burden by foreign oil producers and reduction of imports would directly improve the U.S. trade balance by about $5.5 billion, assuming the exchange rate did not change.

A tariff would have its maximum effect on prices if imposed by all or most major consuming nations. Since the U.S. market consumes only one-third of foreign-produced oil, its actions in the international market can have only limited impact on the world price. The six major OECD nations represent 60 percent of free world demand and so would have much greater leverage should they choose to work in consonance in imposing tariffs. The International Energy Agency has recently urged this very course of action. Domestic political pressures, however, might prevent other nations from imposing tariffs. Unlike the United States, where final product prices have been falling since shortly after oil decontrol, prices continue to rise in other OECD nations. Since oil prices are denominated in dollars, the strength of the dollar in the last year has caused higher real oil prices for other nations. Thus, foreign consumers have not had the long period of retail price stagnation that U.S. consumers have enjoyed.

Other OECD nations would have an additional reason for not imposing an equivalent tariff on their imported oil--lower oil prices give them a competitive advantage relative to U.S. industry in a wide variety of products. The U.S. petrochemical industry, which relies heavily on oil as a feedstock for production of its final product, is particularly vulnerable to higher oil prices. In recent years, U.S. petrochemicals have been exported successfully, to a large extent because of the subsidy afforded this industry by domestic oil and gas price controls. By adding to the cost of petrochemical feedstocks, an oil import tariff might reduce, perhaps significantly, the competitiveness of U.S. petrochemicals in international trade,

particularly if natural gas deregulation takes place. If an oil import tariff is implemented, policymakers might consider allowing some exclusion for the oil used by the petrochemical industry.

Other industries would be affected as well. Energy comprises approximately 20 percent of the final costs of steel production, and the higher energy costs caused by an oil import tariff might be more than the steel industry could pass on to consumers (because the costs, and hence prices, of foreign-produced steel would not have risen), thus squeezing profits and, presumably, investment in that industry. Other energy-intensive industries that could be similarly affected include paper and chemicals.

DISTRIBUTIONAL EFFECTS

Depending on its effect on world oil prices, the $5 per barrel tariff would transfer between $20 and $30 billion from all oil consumers to producers and the government. This section describes the effects on the distribution of private nonbusiness consumption expenditures. If households continued to spend according to their historic patterns, or even with some small shifts, the income flows would be larger for rural, northeastern, and low-income households than for consumers at large. As expected, households in the Northeast use considerably more home heating oil than do families elsewhere, and rural households spend a larger percentage of their incomes on petroleum products than do urban and suburban families. Similarly, while upper-income families consume more gasoline, heating oil, and other petroleum products than do lower-income families, poorer families spend a greater percentage of their incomes on these products. In the past, families in the lowest income fifth have spent, as a percent of income, more than twice as much on gasoline as families in the top income fifth. Similarly, the poor previously spent four times as much on heating oil and twice as much for the fuel in other goods and services they consumed. Unless low-income families have made much greater efforts to conserve than have households in general, these patterns should hold. (It is unlikely that low-income families have conserved more, since many conservation efforts, other than driving less or turning down the thermostat, are often expensive--for example, new energy-efficient cars and home insulation.) A Department of Energy survey showed that, while conservation investments were positively correlated with income, low-income families were making inexpensive conservation investments. Thus, the potential for future inexpensive conservation investments by low-income families in response to a tariff is less than it would have been before the major price escalations of 1973-1974 and 1979.

RECYCLING

As mentioned above, part of the negative macroeconomic effects of a tariff would result from the sizable income transfers from consumers to producers and the government. If the government recycled the income by reducing the withholding of personal income or Social Security taxes, the negative effects on output and employment would be reduced. However, a major reason for imposing the tariff in the first place--increasing net federal revenues--would be lost. Because the resulting increase in inflation would require increased spending for Social Security and entitlements programs, government expenditures would rise. Thus, not all the money could be recycled through decreased withholding and at least some would have to be retained by the federal government to cover the enlarged entitlement payments.

Prompt recycling of all the federal revenues collected would eliminate the output and employment loss, and, if foreign oil producers reduced their prices in response to the tariff, could result in a constant dollar GNP gain. 5/ While recycling the tariff revenues would reduce the output and employment losses, insofar as it protected consumers from real income losses, it would encourage more consumption and exacerbate the inflationary effects.

5/ This constant dollar GNP gain would occur because the tariff would effectively tax foreign producers by forcing them to lower their prices. This reduction would transfer income from these producers to the U.S. government. When the U.S. government recycled this money to U.S. consumers, constant dollar income retained in the United States would therefore increase.